

Asbestos Trends Worldwide, with Richard Lemen

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The International Agency for Research on Cancer, the National Toxicology Program, and the Environmental Protection Agency all declared asbestos a known human carcinogen decades ago. Yet U.S. imports of crude chrysotile asbestos fibers rose by 235% between 2009 and 2010, and use is also on the rise in many industrializing, developing countries. Richard Lemen tells host Ashley Ahearn what's driving this growth and how asbestos is currently used worldwide.

AHEARN: It's *The Researcher's Perspective*, I'm Ashley Ahearn.

Asbestos is a fibrous crystalline mineral known for its resistance to heat and flame, and its usefulness in building materials and fabrics. But it's not so great for human health.

The International Agency for Research on Cancer,¹ the National Toxicology Program,² and the Environmental Protection Agency³ all declared asbestos a known human carcinogen decades ago. And yet U.S. imports of crude asbestos fibers rose by 235% between 2009 and 2010.⁴ Worldwide nearly 2 million tons of it were mined for use in things like cements, automotive parts, protective footwear, and textiles.⁵

Joining me to talk about asbestos is Dr. Richard Lemen. He retired from his role as assistant U.S. surgeon general and deputy director of the National Institute for Occupational Safety and Health in 1996. He's now an adjunct professor of Environmental and Occupational Health at the Rollins School of Public Health at Emory University.

Dr. Lemen, thanks for being here.

LEMEN: Thank you.

AHEARN: Last year you were part of a group that called for a global ban on asbestos.⁶ I wonder, why should this stuff be banned, and how does asbestos affect human health?

LEMEN: Well first of all, we have been calling for a ban on asbestos for a number of years. In 1976 we actually called for the first ban on asbestos in the workplace in a criteria document that we put forth to the Department of Labor.⁷ That ban has never occurred. We have continued to try and ban asbestos. All of Europe, many countries in South America, and Saudi Arabia and others have banned asbestos.⁸ However, the United States has not seen fit to ban asbestos.

The health effects of asbestos are wide ranged, from an asbestos-related lung condition called asbestosis, which is not a cancer but a scarring of the lung caused by the fibers that get into the lung. Also asbestos can cause a variety of cancers. The principal cancer is lung cancer and accounts for the most number of cancers associated with work with asbestos or exposure to asbestos.

Another very rare tumor but very fatal tumor is mesothelioma, which is a tumor that affects the lining of the lungs, in the pleura, the lining of the abdomen, and this is a tumor that is unique to asbestos. The only other known cause in North America has been exposure to therapeutic radiation, and that has only accounted for a very small number of cases. About 80–90% of all mesotheliomas that are diagnosed in the United States are associated with some exposure to asbestos, so it's become what we call a signal tumor, and when we see mesothelioma occurring we can pretty much trace a history of exposure to asbestos.⁹

In addition to those two types of cancers, the International Agency for Research on Cancer, a part of the World Health Organization, has now designated asbestos to cause laryngeal cancer, ovarian cancer, and other forms of gastrointestinal cancer.¹⁰ So it's one substance that has had a wide variety of use but has been associated with multiple types of diseases including respiratory disease and cancer.¹¹

AHEARN: More than 60 countries have banned this substance.⁸ What's taking the U.S. so long?

LEMEN: Politics, I think, is the easiest answer for that. There's a lot of lobbying by companies and organizations that have an interest in the profits that are gained from continued use of asbestos. I think also that the threat of litigation has made several companies and those that have had past use of asbestos to be reluctant to sign on to a ban because then that would admit that what they were selling was dangerous. So I think there are a lot of factors that are causing this, but I think the business interests and the financial interests—as they always say, trace the money, and I think you'll find why it has not been banned in this country.

AHEARN: Let's talk a little bit about global trends here. Last year the U.S. imported 235% more asbestos than it had previously,⁴ and it's also on the rise in industrializing, developing countries.¹² Is that right?

LEMEN: Yes it is, and that's really the major market is in the industrializing countries where asbestos is a major component in construction materials and is used in these countries because of its cheapness and easy accessibility. And the tragic part of this is that in these countries, many of them don't have the public health infrastructure that the developed countries have, so they're not really able to provide protections that might be provided in the more industrialized countries.

One of the problems that we see today is the Canadian government is considering refunding a major asbestos mine in Canada where the sole purpose of the asbestos out of that mine is to be exported to these developing countries. They argue—that is, the Canadians argue—that this type of asbestos, one, is not hazardous; it's a chrysotile—

AHEARN: What is chrysotile?

LEMEN: Chrysotile is one form of asbestos. It represents 95% of the asbestos ever used in the world. It is oftentimes referred to as the “white asbestos,” and chrysotile does have different properties than the other types of asbestos. It breaks down in the lung and does not stay in the lung as long as the amphibole type of asbestos. However, in research studies that have been done, we find that chrysotile tends to migrate out of the lung and get into the pleura and other parts of the body where the mesothelioma tumors develop, and it appears to be the most prominent type of fiber that gets into these areas.¹³ So while the argument of the Canadians has been one, this is a safe form of asbestos and two, it can be used under what they call “controlled use” situations, believe me, I have been to many developing countries and watched the so-called controlled use, which does not involve protections to the workers. It is very haphazardous, and oftentimes in developing countries it’s not just the adult male [worker] that is exposed but the wives and even the children.

AHEARN: Dr. Lemen, what’s to say that if Russia, for example, is exporting asbestos, and it’s being used in developing countries, say, like China, and then we buy products made there, that we’re not being exposed to asbestos on a regular basis?

LEMEN: Many of those products come back into the United States. A few years ago when I testified before Senator Murray’s committee in the Senate we brought forth a brake lining that contained asbestos that we had purchased in Texas the day before and showed that as an exhibit to the Senate committee.¹⁴ So it’s very accessible, and we’re exposed to it every day, and I think we really don’t need to spend a lot of research dollars on continuing research on something that has been determined by the World Health Organization and every major scientific agency in the world to cause cancer and respiratory disease. What we need to do now is spend this money on preventing people from developing asbestos-related diseases both in the workplace and in the environment.

AHEARN: We talked about the mine in Quebec, and we’ve talked a lot about the industrializing world, but this is actually a problem in our own backyards. Tell me about Libby, Montana. What happened there?

LEMEN: Libby, Montana, is a beautiful area where a vermiculite mine was located, run by the W.R. Grace Company. Vermiculite is a material that is used for a lot of different purposes. It's used as an insulation material. It's used in gardening products. And the vermiculite, however, was contaminated with a form of asbestos called tremolite. And what has happened is that this mining community has contaminated the rest of the community by giving tailings from the mine to pave playgrounds, to baseball fields, to use for gardening material. The vermiculite is really spread throughout the community, and as a result, not only were the miners becoming affected but the residents of the community, and as a result this community has now one of the highest mesothelioma and asbestos-related disease rates of anywhere in the United States.¹⁵

Another problem with Libby has been that the vermiculite has been shipped throughout the United States to plants where it is processed and then used for a variety of purposes, and, unfortunately, I'm afraid this might not be the only community in the United States affected by this one mine.

AHEARN: Do you think we'll see a global ban on asbestos in our lifetimes?

LEMEN: I was hoping that we might in my lifetime, but I don't think so. I really think that it's going to be a country-by-country issue, and as long as it continues to be shipped to developing countries where public health laws are less stringent, it's going to be a long time before we see a global ban. But I hope that we continue to make progress. I think in the last 10 years we've made more progress on banning asbestos around the world than in the entire history of the use of asbestos. So we are making substantial progress, and I don't want to downplay that.

AHEARN: Dr. Lemen, thank you so much.

LEMEN: You're welcome. It was a pleasure.

AHEARN: Dr. Richard Lemen is the retired assistant U.S. surgeon general and deputy director of the National Institute for Occupational Safety and Health. He's now an adjunct professor of environmental and occupational health at the Rollins School of Public Health at Emory University.

And that's *The Researcher's Perspective*. I'm Ashley Ahearn. Thanks for downloading!

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¹¹ Even if all new asbestos use stopped today, people would still be at risk of exposure from preexisting uses. Products, especially building materials, degrade with age, releasing toxic fibers. Demolition, renovations, and reconstruction after disasters can release still more asbestos. And with a typical latency period of decades between exposure and cancer, asbestos-related mesothelioma would continue to be diagnosed well into the future [Kamp DW. Asbestos-induced lung diseases: an update. Transl Res 153(4):143–152 (2009); doi:10.1016/j.trsl.2009.01.004].

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